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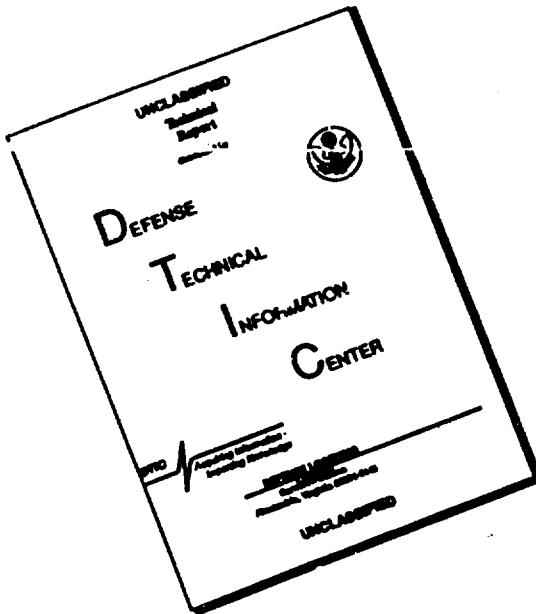
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EXPERIENCE OF INFECTIOUS DISEASE SPECIALISTS
UNDER FRONT LINE CONDITIONS

Journal of Microbiology, Epidemiology and Immunobiology
1965, no 5, pp 19-25.

B. L. Uglyuzov

The idea of war has always been associated with epidemics. A special place in this regard is occupied by World War II, which concluded with such a brilliant victory by the Soviet Army over Hitler Germany.

If one can imagine the influx of patients at the hospital for infectious diseases of K Army then under conditions of stable epidemic well-being of the troops only periodic rises in the sick-rate connected with isolated outbreaks will be noted. Clinical epidemic analysis of these outbreaks and clarification of the role of specialists in the struggle with infectious diseases are of decided interest. In the same way that a tactical critique of a military operation discloses its strong and weak points in determining the paths of victory and the causes of defeat, so the analysis of epidemics exposes the causes of the outbreak and the ways to avert mass sickness.

The occasions of tularemia sickness which doctors first encountered under front line conditions during World War II deserve attention here. The first occurrence was diagnosed in the fall of 1941, on the western front.

In the following period of time sporadic occurrences of tularemia primarily of the bubonic type were encountered among the civilian populace in the zone immediately behind the front and among the troops. The presence of water rats was noted in the river and lake deltas in the troop areas. Epizootic disease was soon spread by mouselike rodents (the ordinary gray field leuse) and caused mass infection of personnel.

On the evening of 31 December 1943 a group of patients was delivered to the hospital. The large hut which housed the reception room was crammed full of patients exhausted by sleepless nights and the tiresome evacuation along frontline roads. The warmth spreading from the iron stove acted as a narcotic. Unaccustomed to houses and not having undressed under the conditions of winter cold and incessant military alert, the men sometimes fell asleep in the middle of a word.

Epidemiologic anamnesis data indicated that the military unit to which the patients belonged had recently arrived at the front and was occupied with constructing defensive installations. Straw from stacks of un-threshed grain remaining in the fields was used to warm the bunkers and dugouts. Almost everyone used the straw for bedding and mattresses. A great number of rodents were observed in the connecting bunkers, dugouts and trenches.

It was confirmed that fevers broke out 3-4 days after the unit's 22 December move to the defensive line. Before this time there were no patients with similar symptoms in the small units. The sickness usually came on unexpectedly with rigor, fever, rheumatic pains throughout the body and headaches. Even in the dim light of the kerosene lamp could be seen the hyperemia of the face, the feverish glitter of the eyes and the dry lips. There was no rash or increase in the lymph nodes. A reddening of the throat was observed. Catarrhal symptoms in the lungs were absent, and only in isolated cases a few moist hoarsenesses were heard. There was as a rule no palpation of liver or spleen and there were no meningitic symptoms.

The question arose as to whether this sickness was connected with local conditions and whether the troop area was a natural source of disease. This conclusion, based on the doctrine of Academician Ye. N. Pavlovskiy, required additional data which we did not have.

Hematology analysis and blood cultures on bile were conducted simultaneously with the examination of patients. The tense situation at the front always required exceptional operational efficiency in conducting a thorough but quick examination of patients (epidemiologic analysis, clinical data, results of laboratory analyses) with the aim of the earliest possible diagnosis.

A subcutaneous tularemia sample was placed for completeness of clinical examination. The allergy test was clearly positive in the majority of patients and this immediately made the diagnosis clear.

The unique clinical type of tularemia arising from infection by aspiration which was at that time still little known to military doctors, proceeded as an acute respiratory infection with a brief temperature reaction, rigor, headache and myalgia. The brief fever observed in the majority of patients served as the basis to speak of the influenza-like course of this clinical variant of the illness. The pulmonary type which proceeded as bronchial pneumonia was rarely observed.

The outbreak came like a hurricane and was quickly eliminated by energetic antiepidemic measures. Tularemia was an episode of the front. At the same time this disease showed that the military doctor must always be ready under field conditions to solve complicated diagnostic problems and with this aim to apply all necessary clinical and laboratory methods of examination of patients, taking into account ecological data.

The subsequent period of offensive operations was marked by comparative well-being, and only sporadic outbreaks of dysentery and typhoid fever were noted in the army. There were some outbreaks of typhus, but they were never widespread due to continual active antiepidemic supervision. Then there was an outbreak of intestinal diseases which was very instructive according to all clinical epidemiological data.

Upon arrival in area L at the end of December 1943 the hospital received an order to set up and prepare to receive patients by the end of the day. First as always a sanitary processing point had to be equipped. For this purpose a miraculously intact warehouse was used in a village burned to the ground by the enemy. A window was cut in the wall, an iron stove was placed in the corner, along the walls were placed benches, and a drain for water was constructed in the cellar. A tent placed with one fly against the door of the processing point served as a dressing room.

Water was heated in the open in a hearth pot and also in large fuel drums placed on the fire, and was fetched in buckets to the washroom. A decontamination chamber was set up next to the warehouse. As the water expenditure was large and there was only one well, snow was melted down for water. When the first patients placed their clothing in the chamber and came into the washroom the rigging and warming of the tents had been completed. Cots were set up on the wooden floor where the snow had not yet melted. At the same time shelters were constructed.

Dysentery patients constantly arrived. There were in the hospital in June five patients, in July there were 26, in August 27, in September 30 and in December the number of patients sharply increased. The army took up active defense in a base area which could be compared to a bag. The Germans were attempting to tie up this bag by furious attacks to the flanks. The locality was swampy and water accumulated in the defensive installations. Since one could not show himself from the trenches, especially in the daytime, latrines of a primitive type were constructed in the same place in a section of the trench especially set aside. Sharp variations in temperature along with the onset of thaws which were prevalent in the winter of 1943-1944 in Byelorussia made the sanitary conditions of the area even worse. A lack of roads and the military situation made delivery of potable water to the main line of resistance impossible and the troops took advantage of chance water from shell craters, excavations and other sources which were very questionable from an epidemic point of view.

The first dysentery cases were frequently diagnosed as enterocolitis. It is not difficult to understand that the difference between these two illnesses lay only in the name. From this followed the late diagnosis of patients and the broad dissemination of the disease under extremely adverse conditions of the surroundings.

This error was quickly corrected and early diagnosis and full hospitalization of patients was effected. The widely used sulfanilamides had a definite therapeutic effect. Shortly after the beginning of specific treatment the instances of toxin poisoning disappeared, general condition improved, appetite returned, tormenting depressions ceased and in the following days the stool became normal. In the presence of a large number of patients there was not one mortality as a result of dysentery. Serious forms were encountered infrequently, but it was this which stressed the significance of dysentery as an illness which requires the most fixed attention.

For recognition and a detailed clinical examination, patients were subjected to rectoromanoscopy. Data obtained permitted determination of the delay of anatomical changes from clinical recovery. This important circumstance was not considered to the necessary degree in determination of hospi-

talization times for patients. Endoscopy proved especially valuable in examining patients returning to the hospital with exacerbations and relapses. The presence of broad and persistent diseases of the mucous membrane of the intestine connected with the tenacious secretion of dysentery bacilli was a sufficient basis for putting such chronic patients before a commission with their subsequent separation from the army. By this means was solved the problem of eliminating the possibility of the spread of dysentery by carriers of bacteria.

When the rate of dysentery began to lower, patients appeared whose illness had the distinguishing feature of yellow jaundice. It immediately drew the attention of the doctors. Up to this time such patients had been a rarity, but now they began to enter the hospital regularly. In the majority of cases the illness began gradually and the patients usually were not able to fix an exact time of appearance of the first symptoms. Rarely was a sharp beginning observed, with a rise in temperature, rigor, stomach pains, nausea and vomiting. The majority of patients did not take their temperature in the initial period, although judging from the analysis they experienced a feeling of fever and chills. Of 148 patients examined in the period of outbreak, 32 had a temperature of 38 degrees, 23 with 39 degrees, and five had temperatures between 39-40 degrees. The enlarged liver and sometimes the spleen of all patients were palpated. There were observed cases where the hepatolienal syndrome and complaints typical of hepatitis were noted in patients with hardly noticeable yellow jaundice. Because of this diagnostic doubts arose: we could not then imagine that hepatitis could occur without the appearance of yellow jaundice.

The presence of the typical complaints and clinical symptoms under conditions of increasing illness left no doubts as to the epidemic nature of the illness. The question rose as to the ways that the disease spread. Water came under the greatest suspicion: Because of its impurity it could with a high degree of certainty be a factor in transmission of hepatitis arising on the base on the heels of dysentery and typhoid fever outbreaks.

Under these very conditions the unfavorable influence of the surroundings fully affected the rise of infectious diseases, and as a result it became necessary to review a number of ideas, particularly questions of the seasonal nature of dysentery, the maximum rise of which was observed in December and January when it was impossible to consider such disease transmission factors as for example flies, fresh vegetables and fruit in the diet, etc.

With the successful advance of Soviet troops to the west the sources of typhoid fever were ever more frequently discovered in the populated points liberated from the enemy. Contact with the populace led to the appearance of typhus in the troop units. Partly for this reason the cases of typhoid fever sharply fell during periods of offense, and noticeable increased under defensive conditions. The infectious disease hospital always differed from the surgical hospital in this regard: it was full much less during the offense than during the defense.

Sickness increased in the period that the army stayed in Poland, which had been brought into extremely unsanitary conditions by the Hitlerites. Outbreaks due to water were observed. One of them was in a hospital which

used water from the Bystshitsa river, into which drained the sewer waters of a big city, Lyublin, situated upstream. Shortly before the outbreak this hospital was ordered to be reequipped as an army rest home, and it accomplished this in a period of time possible only during a war. In line with this all sick and wounded under treatment were transferred to other medical installations or were discharged to units so that later they could be simultaneously collected in an infectious disease hospital from all places where the first clinical appearances of typhus caught them.

Typhoid fever simultaneously broke out in the regiment situated along the Bystshitsa river. A wave of intestinal disturbances preceded the outbreak, as was at one time observed at the base in area L.

Typhoid fever assumed menacing proportions in Germany after the war had disrupted its sanitary base. The main mass of patients were repatriated civilians -- Poles, Yugoslavs, Italians, French and Dutch, discovered by us in concentration camps on the Elbe. Patients who had experienced the complete terror of Fascist bondage were in a state of exhaustion with symptoms of alimentary dystrophy. A serious form of typhoid fever occurred, and lethality reached 10.4%.

During a lull in military operations at the front practical science conferences were held. We assembled and exchanged thoughts and impressions after the recent military operations. There was active participation in the conference by G. P. Rudnev, L.I. Lyalin, Ya. Ye. Timen, I. N. Popov, M. M. Traynina, A. A. Kolachev, V. P. Efroimson, M. Ya. Mirskiy, A. Kh. Khodzhayev and others. There were at times lectures and seminars for doctors, in particular by G. P. Rudnev on especially dangerous diseases.

Experience of the antiepidemic support for troops in the years of World War II showed that infectious disease specialists played a large role in the struggle with infectious diseases at the front. Acting on the staff of infectious disease hospitals, they together with the military doctors ensured an early diagnosis, timely hospitalization, full-value treatment of patients with infectious diseases, and their return to the active army after recuperation.